

10/591603

AP20 Rec'd PCT/PTO 05 SEP 2006

SEQUENCE LISTING

<110> Marine Biotechnology Institute Co., ltd

<120> A method for producing picolinic acids

<130> PH-2375-PCT

<140>

<141>

<150> JP 2004-061238

<151> 2004-03-04

<160> 10

<170> PatentIn version 3.1

<210> 1

<211> 1377

<212> DNA

<213> Artificial

<220>

<223> synthetic gene

<400> 1

atgagctcag caatcaaaga agtgcaggga gcccctgtga agtggggttac caattggacg	60
ccggaggcga tccggggggtt ggtcgatcag gaaaaagggc tgcttgatcc acgcatctac	120
gccgatcaga gtctttatga gctggagctt gagcgggttt ttggtcgctc ttggctgtta	180
cttgggcacg agagtcatgt gcctgaaacc ggggacttcc tggccactta catgggcgaa	240
gatccggttg ttatggtgcg acagaaagac aagagcatca aggtgttcct taaccagtgc	300
cgacaccgcg gcatgcgtat ctgccgctcg gacgccggca acgccaaggc tttcacctgc	360

agctatcacg gctgggccta cgacatcgcc ggcaagctgg tgaacgtgcc gttcgagaag 420  
 gaagcctttt gcgacaagaa agaaggcgac tgcggctttg acaaggccga atggggcccg 480  
 ctccaggcac gcgtggcaac ctacaagggc ctggtctttg ccaactggga tgtgcaggcg 540  
 ccagaattgg agacctacct cggtgacgcc cgcccctata tggacgtcat gctggatcgc 600  
 acgccggccg ggactgtggc catcggcggc atgcagaagt gggtgattcc gtgcaactgg 660  
 aagtttgccg ctgagcagtt ctgcagtgc atgtaccacg ccggcaccat gtcgcacctg 720  
 tccggcatcc tggcgggcat gccgccggaa atggacctgt cgcattgcaca ggtgcccacc 780  
 aagggaacc agttccgggc cggctggggc gggcacggct cgggctggtt cgtcgacgag 840  
 ccgggcatgc tcatggcggt gatggggccc aaggtcaccc agtactggac cgaagggtccg 900  
 gctgccgacc tggcagaaca gcgactgggc cacaccatgc cggttcgacg catgttcggc 960  
 cagcacatga cgatcttccc gacctgttca ttctgccccg ccatcaaac catccggacc 1020  
 tggcaccgc gtggtcccaa tgaaatcgag gtgtgggcct tcacctggt cgatgccgac 1080  
 gccccggcgg agatcaagga agaatatgc cggcacaaca tccgcacctt ctccgcaggc 1140  
 ggctgtttt agcaggacga tggcgagaac tgggtggaga tccagaagg gctacgtggg 1200  
 tacaaggcca agagccagcc gctcaatgcc cagatgggcc tgggtcggtc gcagaccggt 1260  
 caccctgatt ttctggcaa cgtcggctac gtctacgccg aagaagcggc gcggggtatg 1320  
 taccacct ggatgcgcat gatgtccgag ccagctggg ccacgtcaa gccctga 1377

<210> 2  
 <211> 458  
 <212> PRT  
 <213> Artificial

<220>

<223> synthetic polypeptide

<400> 2

Met Ser Ser Ala Ile Lys Glu Val Gln Gly Ala Pro Val Lys Trp Val  
1 5 10 15

Thr Asn Trp Thr Pro Glu Ala Ile Arg Gly Leu Val Asp Gln Glu Lys  
20 25 30

Gly Leu Leu Asp Pro Arg Ile Tyr Ala Asp Gln Ser Leu Tyr Glu Leu  
35 40 45

Glu Leu Glu Arg Val Phe Gly Arg Ser Trp Leu Leu Leu Gly His Glu  
50 55 60

Ser His Val Pro Glu Thr Gly Asp Phe Leu Ala Thr Tyr Met Gly Glu  
65 70 75 80

Asp Pro Val Val Met Val Arg Gln Lys Asp Lys Ser Ile Lys Val Phe  
85 90 95

Leu Asn Gln Cys Arg His Arg Gly Met Arg Ile Cys Arg Ser Asp Ala  
100 105 110

Gly Asn Ala Lys Ala Phe Thr Cys Ser Tyr His Gly Trp Ala Tyr Asp  
115 120 125

Ile Ala Gly Lys Leu Val Asn Val Pro Phe Glu Lys Glu Ala Phe Cys

130

135

140

Asp Lys Lys Glu Gly Asp Cys Gly Phe Asp Lys Ala Glu Trp Gly Pro  
 145 150 155 160

Leu Gln Ala Arg Val Ala Thr Tyr Lys Gly Leu Val Phe Ala Asn Trp  
 165 170 175

Asp Val Gln Ala Pro Glu Leu Glu Thr Tyr Leu Gly Asp Ala Arg Pro  
 180 185 190

Tyr Met Asp Val Met Leu Asp Arg Thr Pro Ala Gly Thr Val Ala Ile  
 195 200 205

Gly Gly Met Gln Lys Trp Val Ile Pro Cys Asn Trp Lys Phe Ala Ala  
 210 215 220

Glu Gln Phe Cys Ser Asp Met Tyr His Ala Gly Thr Met Ser His Leu  
 225 230 235 240

Ser Gly Ile Leu Ala Gly Met Pro Pro Glu Met Asp Leu Ser His Ala  
 245 250 255

Gln Val Pro Thr Lys Gly Asn Gln Phe Arg Ala Gly Trp Gly Gly His  
 260 265 270

Gly Ser Gly Trp Phe Val Asp Glu Pro Gly Met Leu Met Ala Val Met  
 275 280 285

Gly Pro Lys Val Thr Gln Tyr Trp Thr Glu Gly Pro Ala Ala Asp Leu  
 290 295 300

Ala Glu Gln Arg Leu Gly His Thr Met Pro Val Arg Arg Met Phe Gly  
 305 310 315 320

Gln His Met Thr Ile Phe Pro Thr Cys Ser Phe Leu Pro Ala Ile Asn  
 325 330 335

Thr Ile Arg Thr Trp His Pro Arg Gly Pro Asn Glu Ile Glu Val Trp  
 340 345 350

Ala Phe Thr Leu Val Asp Ala Asp Ala Pro Ala Glu Ile Lys Glu Glu  
 355 360 365

Tyr Arg Arg His Asn Ile Arg Thr Phe Ser Ala Gly Gly Val Phe Glu  
 370 375 380

Gln Asp Asp Gly Glu Asn Trp Val Glu Ile Gln Lys Gly Leu Arg Gly  
 385 390 395 400

Tyr Lys Ala Lys Ser Gln Pro Leu Asn Ala Gln Met Gly Leu Gly Arg  
 405 410 415

Ser Gln Thr Gly His Pro Asp Phe Pro Gly Asn Val Gly Tyr Val Tyr  
 420 425 430

Ala Glu Glu Ala Ala Arg Gly Met Tyr His His Trp Met Arg Met Met  
 435 440 445

Ser Glu Pro Ser Trp Ala Thr Leu Lys Pro  
450 455

<210> 3  
<211> 35  
<212> DNA  
<213> Artificial

<220>  
<223> synthetic oligonucleotide

<400> 3  
ccgaattcaa ggagacgttg aatcatgagc tcagc

35

<210> 4  
<211> 25  
<212> DNA  
<213> Artificial

<220>  
<223> synthetic oligonucleotide

<400> 4  
ttgaattcctt ccggttgaca gatct

25

<210> 5  
<211> 12  
<212> PRT  
<213> Artificial

<220>  
<223> synthetic peptide

<400> 5

Asp Lys Ser Ile Lys Val Phe Leu Asn Gln Cys Arg  
1 5 10

<210> 6  
<211> 12  
<212> PRT  
<213> Artificial

<220>  
<223> synthetic peptide

<400> 6

Asp Asp Gly Glu Asn Trp Val Glu Ile Gln Lys Gly  
1 5 10

<210> 7  
<211> 38  
<212> DNA  
<213> Artificial

<220>  
<223> synthetic oligonucleotide

<220>  
<221> misc\_feature  
<222> (24).. (24)  
<223> N = A, C, G or T

<220>  
<221> misc\_feature  
<222> (36).. (36)  
<223> N = A, C, G or T

<400> 7

gacaagagca tcaaggtggt cctnaaccag tgycgnc

38

<210> 8

<211> 36

<212> DNA

<213> Artificial

<220>

<223> synthetic oligonucleotide

<220>

<221> misc\_feature

<222> (28).. (28)

<223> N = A, C, G or T

<400> 8

ccccttctgg atctccaccc agttytcncc rtcgtc

36

<210> 9

<211> 20

<212> DNA

<213> Artificial

<220>

<223> synthetic oligonucleotide

<400> 9

aacaccttga tgctcttgtc

20

<210> 10

<211> 20

<212> DNA

<213> Artificial

<220>



<223> synthetic oligonucleotide

<400> 10

gggtggagat ccagaagggg

20